

PATENT
514413-3864

AMENDMENT

Please amend the application without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows:

In the Claims

1. (Previously presented) An isolated nucleic acid molecule encoding a protein with the function of a potato β -amylase, selected from the group consisting of:

- a) a nucleic acid molecule encoding the amino acid sequence of SEQ ID NO: 2;
- b) a nucleic acid molecule having the nucleotide sequence of SEQ ID NO: 1;
- c) ~~a nucleic acid molecule encoding a protein with at least about 85% sequence identity with SEQ ID NO:2;~~
- d) ~~a nucleic acid molecule which hybridizes with, or is complementary to, the nucleic acid molecules stated under a) or b), wherein hybridization is performed at a temperature of 68°C in buffer comprising 2X SSC or 7% SDS; and~~
- d) ~~e)~~ a nucleic acid molecule whose nucleotide sequence deviates from the sequence of the nucleic acid molecules stated under a)-c) ~~a)-d)~~ owing to the degeneracy of the genetic code.

2. (Previously presented) A recombinant nucleic acid molecule containing:

- a) the nucleic acid molecule encoding a protein with the function of a potato β -amylase as claimed in claim 1, and
- b) one or more nucleotide sequences which encode one or more proteins, wherein the one or more proteins are selected from the group consisting of branching enzymes, ADP glucose pyrophosphorylases, granule-bound starch synthases, soluble starch synthases, debranching enzymes, disproportioning enzymes, plastid starch phosphorylases, R1-enzymes, amylases, and glucosidases; or nucleic acid molecules which hybridize with said nucleotide sequences, wherein hybridization is performed at a temperature of 68°C in buffer comprising 2X SSC or 7% SDS.

3. (Previously presented) The nucleic acid molecule as claimed in claim 1, which is a deoxyribonucleic acid molecule.

4. (Previously presented) The nucleic acid molecule as claimed in claim 2, which is a cDNA molecule.

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5. (Previously presented) The nucleic acid molecule as claimed in claim 1, which is a ribonucleic acid molecule.
6. (Cancelled)
7. (Previously presented) A vector comprising the nucleic acid molecule as claimed in claim 1.
8. (Previously presented) A vector comprising the nucleic acid molecule as claimed in claim 1, wherein the nucleic acid molecule encoding a protein with the function of a β -amylase is present in sense orientation.
9. (Previously presented) A vector comprising the nucleic acid molecule as claimed in claim 2, wherein the nucleic acid molecule encoding a β -amylase and the nucleotide sequence encoding one or more proteins of (b) are present in sense orientation.
10. (Previously presented) A vector comprising a nucleic acid molecule as claimed in claim 2, comprising nucleotide sequences which encode a plurality of proteins selected from group A, wherein at least one nucleotide sequence is in sense orientation and at least one nucleotide sequence is in antisense orientation.
11. (Previously presented) A vector comprising a the nucleic acid molecule as claimed in claim 1, which is linked to regulatory elements which ensure transcription and synthesis of an RNA, which is optionally translatable, in a pro- or eukaryotic cell.
12. (Previously presented) A host cell which is transformed with the nucleic acid molecule as claimed in one or more of claims 1-5 or a vector as claimed in one or more of claims 7-11 or a cell which is derived from the host cell.
13. (Previously presented) A process for the generation of a transgenic plant cell which synthesizes a modified starch, comprising integrating the nucleic acid molecule as claimed in one or more of claims 1-5 or a vector as claimed in claim 7-11 into the genome of a plant cell.
14. (Previously presented) A plant cell which is obtained by the process as claimed in claim 13.
15. (Previously presented) A process for generating a transgenic plant which synthesizes a modified starch comprising regenerating an intact plant from the cell as claimed in claim 14.
16. (Previously presented) A plant comprising the plant cell as claimed in claim 14.
17. (Previously presented) The plant as claimed in claim 16, which is a useful plant.

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18. (Previously presented) The plant as claimed in claim 16, which is a starch-storing plant.

19. (Previously presented) The plant as claimed in claim 16, which is a wheat, maize, potato or rice plant.

20. (Previously presented) Propagation material of the plant as claimed in claim 16.

21. (Previously presented) A process for the production of starch comprising isolating starch from the plant cells as claimed in claim 14, the plants as claimed in claim 16 or propagation material as claimed in claim 20.

22-25. (Cancelled)

26. (Previously presented) The nucleic acid molecule of claim 2, wherein the one or more proteins are glucosidases.

27-42. (Cancelled)